DELINEATING PSYCHOPATHY FROM COGNITIVE EMPATHY: THE CASE OF PSYCHOPATHIC PERSONALITY TRAITS SCALE

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ABSTRACT

There is an ongoing debate regarding the content of psychopathy, especially about the status of antisocial behavior and disinhibition characteristics as core psychopathy features. Psychopathic Personality Traits Scale (PPTS) represents a novel model of psychopathy based on core psychopathy markers such as Interpersonal manipulation, Egocentricity and Affective responsiveness. However, this model presupposes another narrow trait of psychopathy: cognitive responsiveness, which represents a lack of cognitive empathy. Since previous models of psychopathy do not depict this feature as a core psychopathy trait, the goal of this study was to empirically evaluate if the lack of cognitive empathy is a narrow psychopathy trait or its correlate. The research was conducted on a community sample via online study (N=342; M_{age}=23.7 years; 31% males). Results showed that the correlations between Cognitive responsiveness and other psychopathy features were significantly lower than intercorrelations of other three traits. Factor analysis, conducted on PPTS items, provided a two-factor solution, where Cognitive responsiveness was yielded as a factor separate from other psychopathy indicators. Finally, the exploration of the shared latent space of psychopathy and cognitive empathy resulted in the two-factor solution where psychopathy and the lack of cognitive empathy were extracted as correlated but separate latent variables. The data clearly supported the former model. Research results showed that the lack of cognitive empathy should not be considered an indicator of psychopathy but its correlate. The findings emphasize the need to be cautious in conceptualization of the psychopathy construct.

Keywords*: Conceptualization of psychopathy, Psychopathic Personality Traits Scale, cognitive empathy, psychopathy*

1. Introduction

1.2. The debate on the content and definition of psychopathy

Psychopathy is a complex, multidimensional construct. It is often depicted by manipulative behavior, affective callousness and coldness; reckless lifestyle and criminal behavior (Hare, 2003). In the four-factor model of psychopathy, these traits are labeled as Interpersonal, Affective, Lifestyle and Antisocial traits (Hare and Neumann 2009). This model of psychopathy received much of scientific and practical attention, while the instrument which operationalizes it (PCL-R: Psychopathy Check List-Revised) is frequently labeled as the "gold standard" in psychopathy assessment (Acheson 2005).

However, there is an ongoing debate regarding the content of the psychopathy construct. It is based on the notion of some researchers that the four-factor model of psychopathy may incorporate some features which are not the core characteristics of psychopathy, but rather its correlates, or even behavioral consequences of psychopathy. The primary targets of this critique are Antisocial characteristics. In the four-factor model of psychopathy they are primarily saturated with criminal behavior, its duration, and variety (Hare 2003). Yet, many researchers claim that antisocial and criminal behavior are not the core features of psychopathy, but a type of behavior which might be associated with it (Cooke and Michie 2001; Cooke, Michie, Hart, and Clark 2004; Cooke, Michie, and Skeem 2007; Johansson, Andershed, Kerr, and Levander 2002; Međedović, Petrović, Kujačić, Želeskov-Đorić, and Savić 2015). Although this debate is still ongoing (see for example Hare and Neumann 2009; 2010; Neumann, Vitacco, Hare, and Wupperman 2005 for opposite opinion), it is notable that contemporary models of psychopathy do not posit antisocial behavior as a separate narrow psychopathy trait (e.g. Benning, Patrick, Hicks, Blonigen, and Krueger 2003; Patrick, Fowles, and Krueger 2009).

1.3. The Psychopathic Personality Traits Scale

Some researchers went even further in an attempt to provide a more specific and conceptually homogenous construct of psychopathy. In this conceptualization of psychopathy, disinhibition and erratic lifestyle are also not considered the core psychopathic traits (Boduszek, and Debowska 2016). The Psychopathic Personality Traits Scale (PPTS) emerges from this conceptual framework which claims that only Factor 1 traits from PCL-R model (manipulative, grandiose, emotional coldness) capture the core characteristics of psychopathy. Because of this, behavioral indicators should not be present in an inventory which tends to capture the core features of psychopathy. Based on this premise, Boduszek and colleagues constructed the PPTS (Boduszek, Debowska, Dhingra, and DeLisi 2016). In this model, psychopathy consists of four traits: Affective responsiveness (lack of empathy, emotional callousness), Cognitive responsiveness (inability to understand the emotional states of others), Interpersonal manipulation (conning and deception) and Egocentricity (self-interest, disregard for others). The instrument was only recently constructed and the empirical data on this psychopathy model are lacking. However, it shows promising predictive capabilities since the original research found associations between PPTS traits and several psychopathy-related outcomes (Boduszek et al. 2016).

1.4. Psychopathy and cognitive empathy

Affective callousness, manipulation and egocentrism have already been described in most of the psychopathy literature, so it is not questionable if they represent markers of psychopathy. However, the lack of understanding the emotions in other individuals is

rarely assumed to be one of the core psychopathy features. This cognitive process is very similar to cognitive empathy, a process of inferring the mental states of others, sometime called perspective taking (Davis, 1983). In their seminal paper, Boduszek et al. (2016) refer only to one study which indeed found that convicts with elevated psychopathy had deficits in understanding affective states of others (Shamay-Tsoory, Harari, Aharon-Peretz, and Levkovitz 2010). Some other studies also found this relationship. However, the relationship was based on behavioral aspects of psychopathy. While the core psychopathy traits (manipulation and shallow affect) were unrelated to cognitive empathy (Brook and Kosson, 2013). Moreover, there are also data which suggest that cognitive empathy, in contrast to affective empathy, is intact in psychopathic individuals (Blair, 2008). Studies, conducted both on adolescents (Jones, Happé, Gilbert, Burnett and Viding 2010) and adults (Mullins-Nelson, Salekin, and Leistico 2006), converged to the conclusion that manipulative and affective psychopathic traits are unrelated to cognitive empathy.

1.5. Goals of the present study

PPTS is a promising new instrument for assessing psychopathy. It is based solely on the core psychopathy characteristics. This is a reconceptualization which could be fruitful for the field of psychopathy. However, it assumes that the lack of cognitive empathy is a core characteristic of psychopathy, and current empirical data does not support this assumption. The key goal of the present study was to evaluate whether it is better to conceptualize the lack of cognitive empathy as a correlate, or as a endogenous psychopathy trait. Following this key aim of the study, we set narrower goals and the accompanied hypotheses: 1) correlations between Cognitive responsiveness and other PPTS traits should be lower than intercorrelations of the three remaining traits; 2) factor analysis of PPTS items should extract the factor of cognitive empathy as a factor separate from global psychopathy; 3) Cognitive responsiveness should show higher congruence with cognitive empathy than with other measures of psychopathy. In order to test the last hypothesis, we included additional external measures to the analysis: two other measures of psychopathy - the Dirty Dozen measure (Jonason and Webster, 2010); the Short Dark triad measure (Jones and Paulhus 2014); and the scale of cognitive empathy itself (Davis 1983). More precisely, this hypothesis is stated as follows: if the latent space of psychopathy and cognitive empathy is examined, two factors should be extracted - one loaded by psychopathy measures and one constituted by both measures of cognitive empathy.

2. Method

2.1. Sample and procedure

The study was conducted online, using Google forms as a platform for the questionnaire. Participants were recruited via social networks. The final sample consisted of 342 subjects. Mean age of participants was 23.7 years (SD=6.89). Majority of participants were females (69%). Most of the participants had completed high school (68.7%). All of the items were marked as mandatory in the online study, so there were no missing answers.

2.2. Measures

We used Psychopathic Personality Traits Scale (Boduszek et al. 2016) to measure psychopathy traits. It comprises four scales: Affective responsiveness, Cognitive responsiveness, Interpersonal manipulation and Egocentricity. Every subscale consists

of five items. The scale was translated and adapted via back translation process. The lead author of the original scale participated in the adaptation. The original inventory had dichotomous response scale. This was justified with the need to make the process of responding as simple as possible for the convicts, who were participants in the original study (Boduszek et al. 2016). We decided to use the five-point Likert scale for two reasons: 1) most of the self-report psychopathy inventories have 5-point response scale (e.g. SRP-4: Paulhus, Neumann, and Hare 2016); 2) Likert scale inventories show better psychometric properties than dichotomous scales (e.g. Muñiz, García-Cueto, and Lozano 2005).

Two additional measures of psychopathy were administered in the present study: the four-item psychopathy scale taken from the Dirty Dozen inventory (Jonason and Webster 2010), and a scale taken from the Short Dark Triad inventory (SD3: Jones and Paulhus 2014). The latter one is comprised of nine items. Both are self -report measures with the standard Likert scale for responding.

In order to independently evaluate cognitive empathy, we used Perspective Taking scale from the Interpersonal Reactivity Index (Davis 1983). This self-report scale consists of six items with a five-point Likert scale for responding.

3. Results

3.1. Descriptive statistics and correlations between the examined scales

First we calculated descriptive statistics, the reliabilities of the administered scales, and the correlations between them. Cronbach's α statistic of internal consistency was used as a reliability measure. Pearson coefficients of linear correlation were calculated as measures of bivariate association between the variables. The results of these analyses are shown in Table 1.

Table 1

Descriptive statistics, reliabilities and correlations between examined variables

	M	SD	1	2	3	4	5	6	7
1. Affective responsiveness	1.90	0.77	(.74)						
2. Cognitive responsiveness	2.08	0.71	.42**	(.71)					
3. Interpersonal manipulation	2.28	0.99	.46**	.06	(.82)				
4. Egocentricity	2.78	0.66	.36**	.01	.52**	(.65)			
5. Perspective taking	3.59	0.76	-.43**	-.56**	-.22**	-.22**	(.73)		
6. Psychopathy SD3	2.07	0.69	.51**	.24**	.64**	.34**	-.38**	(.75)	
7. Psychopathy DD	1.97	1.02	.65**	.25**	.55**	.42**	-.32**	.58**	(.67)

Notes: α coefficients of reliability are shown in parentheses; ** - p<.01; SD3 - Short Dark Triad; DD - Dirty Dozen

All scales had appropriate reliabilities; only the Egocentricity scale showed somewhat lower coefficient of internal consistency. The correlations between PPTS scales were generally positive. However, Cognitive responsiveness was not associated with either

Interpersonal manipulation or Egocentricity. Perspective taking was negatively correlated with all PPTS scales. SD3 and Dirty Dozen psychopathy scales were positively related to PPTS measures (however, note that the correlations with Cognitive responsiveness were smaller in magnitude) and negatively to Perspective taking. The effect sizes of associations were ranged from small to medium.

3.2. The factor structure of the PPTS items

Determining the factor structure of the PPTS was the analytical procedure used for testing the second hypothesis of the study. However, there is another reason for performing this analysis. In the original study of PPTS (Boduszek et al. 2016), the authors performed structural modeling, where they decided on the best fitting model for the study. However, the exploratory factor analysis was never conducted on these data. We conducted Principal Axis Factoring (PAF) on the 20 items of PPTS. Parallel analysis was used in order to determine the optimal number of factors to be analyzed. It suggested that two factors optimally describe the data. Since the extracted latent variables should depict the same construct, we rotated them in the promax position. The pattern matrix of PCA, together with the results of Parallel analysis is shown in Table 2.

Table 2
The pattern matrix of PPTS items

|	1	2
Random eigenvalues	*1.45*	*1.37*
Observed eigenvalues	*4.76*	*2.31*
I don't care if I upset someone to get what I want.	.63	
Before criticizing somebody, I try to imagine and understand how it would make them feel.		.59
I know how to make another person feel guilty.	.72	
I tend to focus on my own thoughts and ideas rather than on what others might be thinking.	.32	
What other people feel doesn't concern me.	.54	
I always try to consider the other person's feelings before I do something.		.66
I know how to pay someone compliments to get something out of them.	.74	
I don't usually appreciate the other person's viewpoint if I don't agree with it.	.31	
Seeing people cry doesn't really upset me.	.47	
I am good at predicting how someone will feel.	-.41	.55
I know how to simulate emotions like pain and hurt to make others feel sorry for me.	.66	
In general, I'm only willing to help other people if doing so will benefit me as well.	.52	
I tend to get emotionally involved with a friend's problems.		.52
I'm quick to spot when someone is feeling awkward or uncomfortable.		.71
I sometimes provoke people on purpose to see their reaction.	.63	
I believe in the motto: "I'll scratch your back, if you scratch mine".	.31	
I get filled with sorrow when people talk about the death of their loved ones.		.46
I find it difficult to understand what other people feel.		-.41
I sometimes tell people what they want to hear to get what I want from them.	.64	
It's natural for human behaviour to be motivated by self-interest.	.50	

Note: the results of parallel analysis are shown in the first two rows. Loadings below .30 are omitted.

The first extracted factor can be interpreted as general psychopathy (23.82% of original items' variance explained). It is loaded by items of shallow affectivity, manipulativeness and self-interest. The second factor is mostly loaded by items of Cognitive

responsiveness scale or cognitive empathy (11.56% of original items variance explained). Some of the items of affective responses to the emotional states of others are loaded on this factor as well. This is not surprising since the previous data generally show that cognitive and emotional empathy are positively related (Reniers, Corcoran, Drake, Shryane, and Völlm 2011). However, the important fact is that two extracted factors (psychopathy and cognitive empathy) have low negative association (r=-.25; p<.01).

3.3. The latent space of psychopathy and cognitive empathy measures

Finally, we conducted another factor analysis, this time in a shared space of psychopathy and cognitive empathy measures. Once again, PAF was used as a method for the factor extraction. Both Guttman-Kaiser criterion and parallel analysis converged to the two-factor solution. The first latent variable (Eigenvalue=3.40; 48.63% of observed measures variance explained) was positively loaded by PPTS Manipulation and Egocentricity, together with two other measures of psychopathy: the Dark Triad scale and Dirty Dozen measure. The second factor (Eigenvalue=1.36; 19.37% of observed measures variance explained) was positively loaded by PPTS Cognitive responsiveness and negatively by the Perspective taking scale from Interpersonal Reactivity Index. These two factors were positively correlated (r=.36; p<.01). The graphical representation of the measures' positions in the two-dimensional latent space is shown in Figure 1.
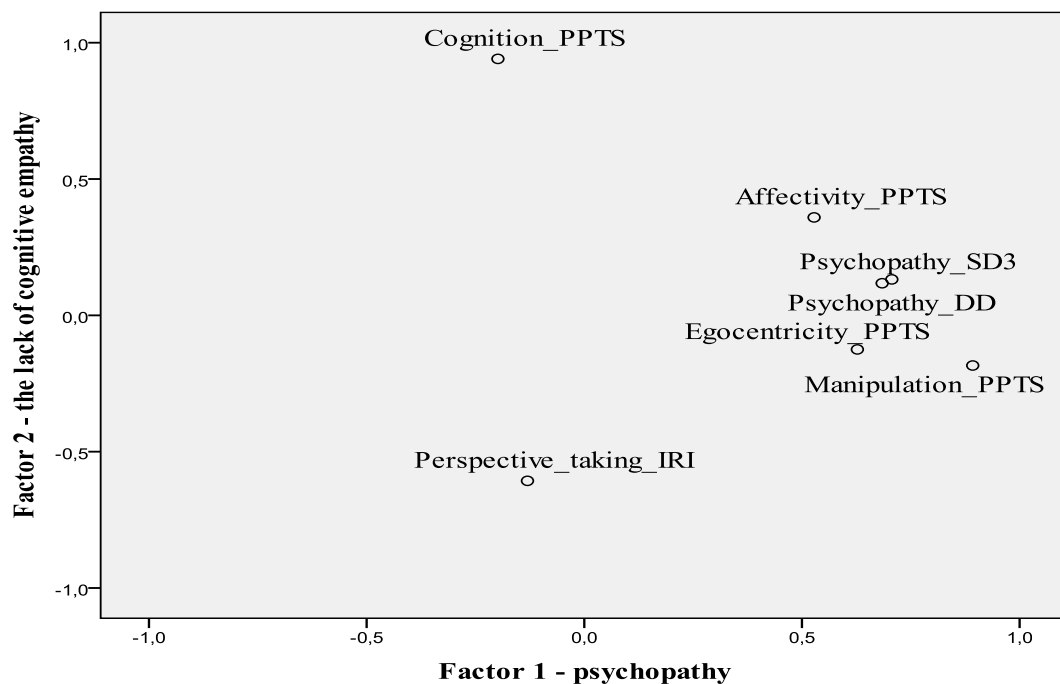
Figure 1
The position of analyzed measures in the two-dimensional latent space
Notes: PPTS - Psychopathic Personality Traits Scale; DD - Dirty Dozen; SD3 - Short Dark Triad; IRI - Interpersonal Reactivity Index

4. Discussion

The concept of psychopathy has instigated a great number of empirical studies in the past several decades. In recent years, there is an ongoing debate regarding the content of psychopathy and the accurate description of core psychopathic features. Several

researchers argued that antisocial behavior should not be considered an endogenous psychopathic characteristic (Cooke and Michie 2001; Cooke et al. 2004; 2007; Johansson et al. 2002; Međedović et al. 2015). Furthermore, there is an initiative claiming that only personality features like manipulativeness and emotional coldness should be regarded as core markers of psychopathy (Boduszek, and Debowska 2016). In an attempt to operationalize this model, Boduszek and colleagues introduced the lack of cognitive empathy in the description of psychopathy (Boduszek et al. 2016). Since previous models of psychopathy did not include this indicator as a core psychopathy trait, the goal of the present study was to empirically evaluate whether the lack of cognitive empathy is the integral feature of psychopathy or perhaps it's correlate. We formulated several hypotheses which favor the latter case. The research findings were largely in accordance with our assumptions.

4.1. Is (the lack of) cognitive empathy a psychopathic trait or its correlate?

When analyzing the correlations between the PPTS traits it can clearly be seen that Cognitive responsiveness shows a lack of congruence with other psychopathy traits. While the other psychopathy traits all have positive correlations amongst themselves, Cognitive responsiveness is not significantly associated nether with Interpersonal manipulation, nor with Egocentricity. It is related only to Affective responsiveness. This finding does not imply that Cognitive responsiveness should be treated as a core psychopathy trait: it is well known that cognitive and affective empathy are positively related (Reniers et al. 2011; Wai and Tiliopoulos 2012). Congruent results were obtained in the factor analysis of PPTS items. The items of Cognitive responsiveness, together with some Affective responsiveness items, loaded on a factor separate from general psychopathy. In fact, these two factors have only a small negative correlation. Nevertheless, this finding has an important limitation. It is possible that the second factor in FA was in fact the method artifact, since all of the items which loaded on it are reversely coded.

In order to provide another evidence of conceptual difference between cognitive empathy and psychopathy, we explored the latent space of psychopathy and cognitive empathy. If cognitive responsiveness is a part of psychopathy it should converge to other psychopathy measures, together with remaining three scales of PPTS. Nevertheless, cognitive responsiveness separated into a distinct latent variable, together with the perspective taking, a measure of cognitive empathy from the Interpersonal Reactivity Index (Davis 1983) which had a negative loading on it. This finding implies that both of these measures may not be the indicators of psychopathy per se, but a manifestation of an aberration in cognitive empathy which correlates with psychopathic traits.

In general, our data favors the view that the lack of cognitive empathy is not the core psychopathy trait, but possibly its correlate. This conclusion is in line with a number of previous empirical studies and theoretical assumptions which claim that cognitive empathy can be intact in psychopaths (Blair 2008; Jones et al. 2010; Mullins-Nelson et al. 2006; Wai and Tiliopoulos 2012). Negative correlations between psychopathy and inferring the emotional states of others probably can be explained by fundamental association between affective and cognitive empathy. In spite of this, empirical findings show that cognitive and affective empathy are separate systems (Shamay-Tsoory, Aharon-Peretz, and Perry 2009). In accordance, it seems that it is better to observe psychopathy and cognitive empathy as separate constructs, and the exact relation between them as potentially being moderated by several factors.

4.2. Limitations and future directions

While the sample size of the present study was high enough to test the research hypotheses, it is possible that the sex ratio in the sample might have affected the results of the study. Perhaps the variables we analyzed could show somewhat different relations in a sample with higher proportion of males. Furthermore, the original study (Boduszek et al. 2016) was conducted on a sample of convicts and previous research indicated that there are differences in the relations between psychopathy and other constructs depending on whether the study sample was selected from the population of inmates or from community participants (Međedović 2015). Nevertheless, the question of core psychopathy traits and its correlates must not be constrained by the sample structure: if a trait is to be considered an integral characteristic of psychopathy, this should apply for any sample considered. Thus, future studies should investigate structural relations between psychopathy and cognitive empathy in different samples, while using various measures of these constructs as well.

5. Concluding remarks

We believe that Boduszek and collaborators are right in their attempt to reconceptualize the construct of psychopathy (Boduszek et al. 2016). Furthermore, we agree with them when it comes to the direction they chose in this reconceptualization (Boduszek, and Debowska 2016): available empirical evidence and theoretical work suggests that the features depicted in the so-called Factor 1 of psychopathy (Hare 2003) are the essential features of psychopathy. These features are manipulation, self-centered behavior, and affective callousness. However, when we try to reconceptualize psychopathy, we must be careful not to make the same mistakes we argue against: to include the psychological phenomena which are not back up by previous data or theory in the construct of psychopathy. Only then we should be able to further advance our understanding and future research of the psychopathy concept.

Acknowledgments

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